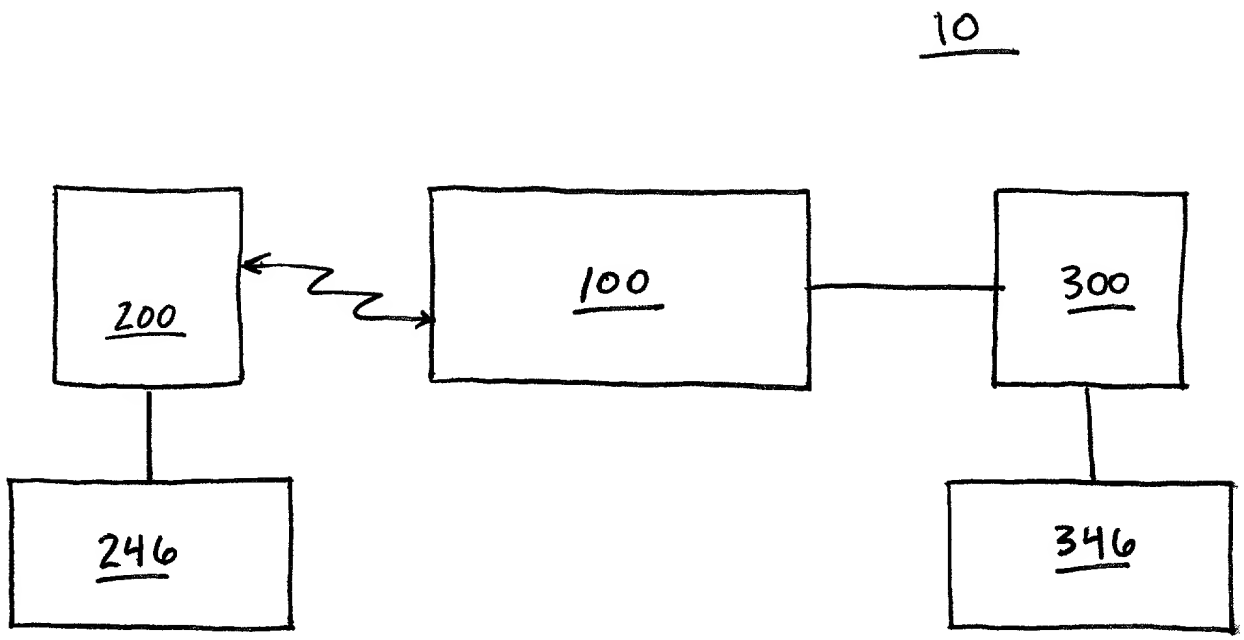
10
200
100
300
246
346

FIG. 1a

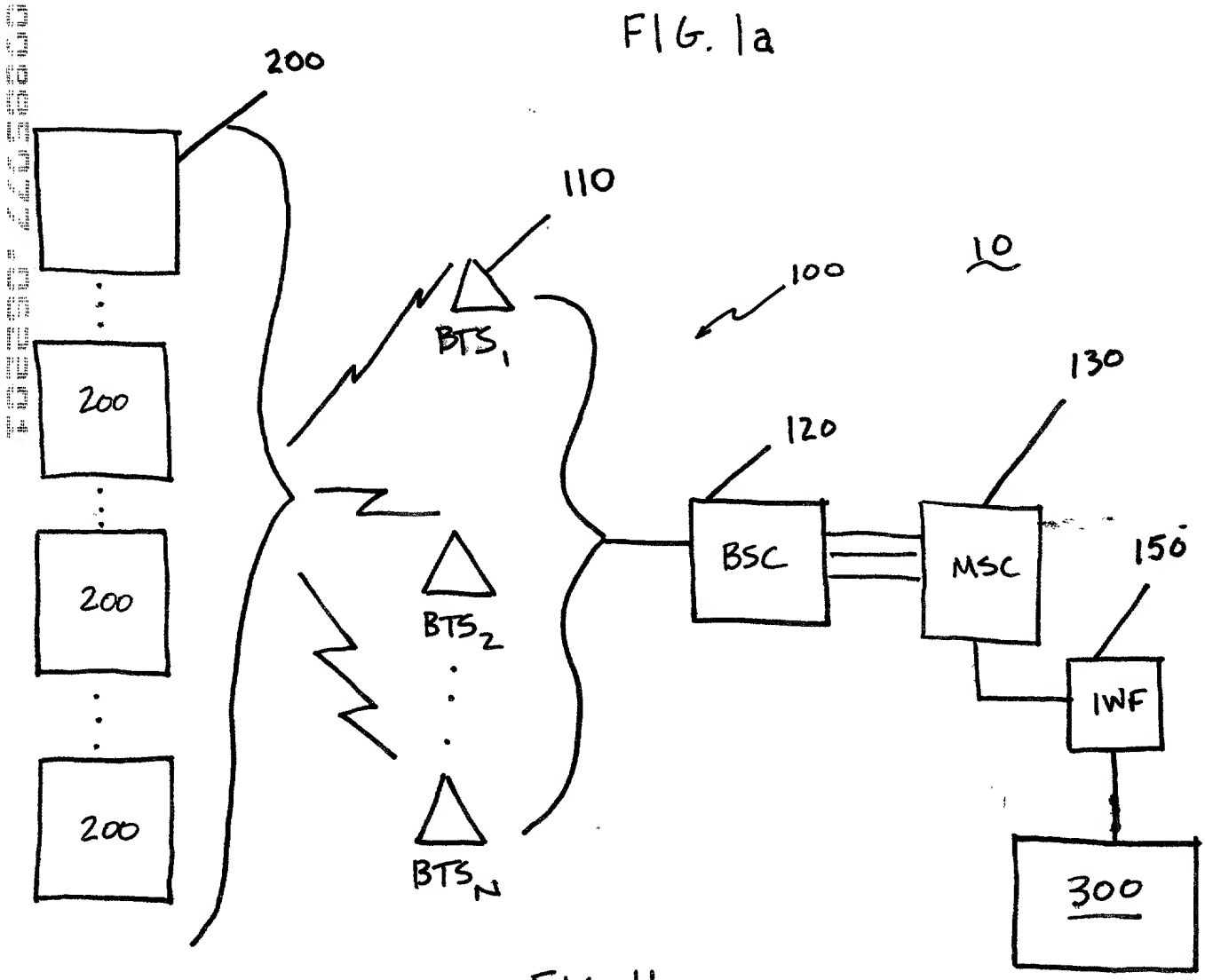
200
110
10
100
130
120
BTS1
BSC
MSC
150
IWF
200
200
200
BTS2
BTSN
300

FIG. 1b

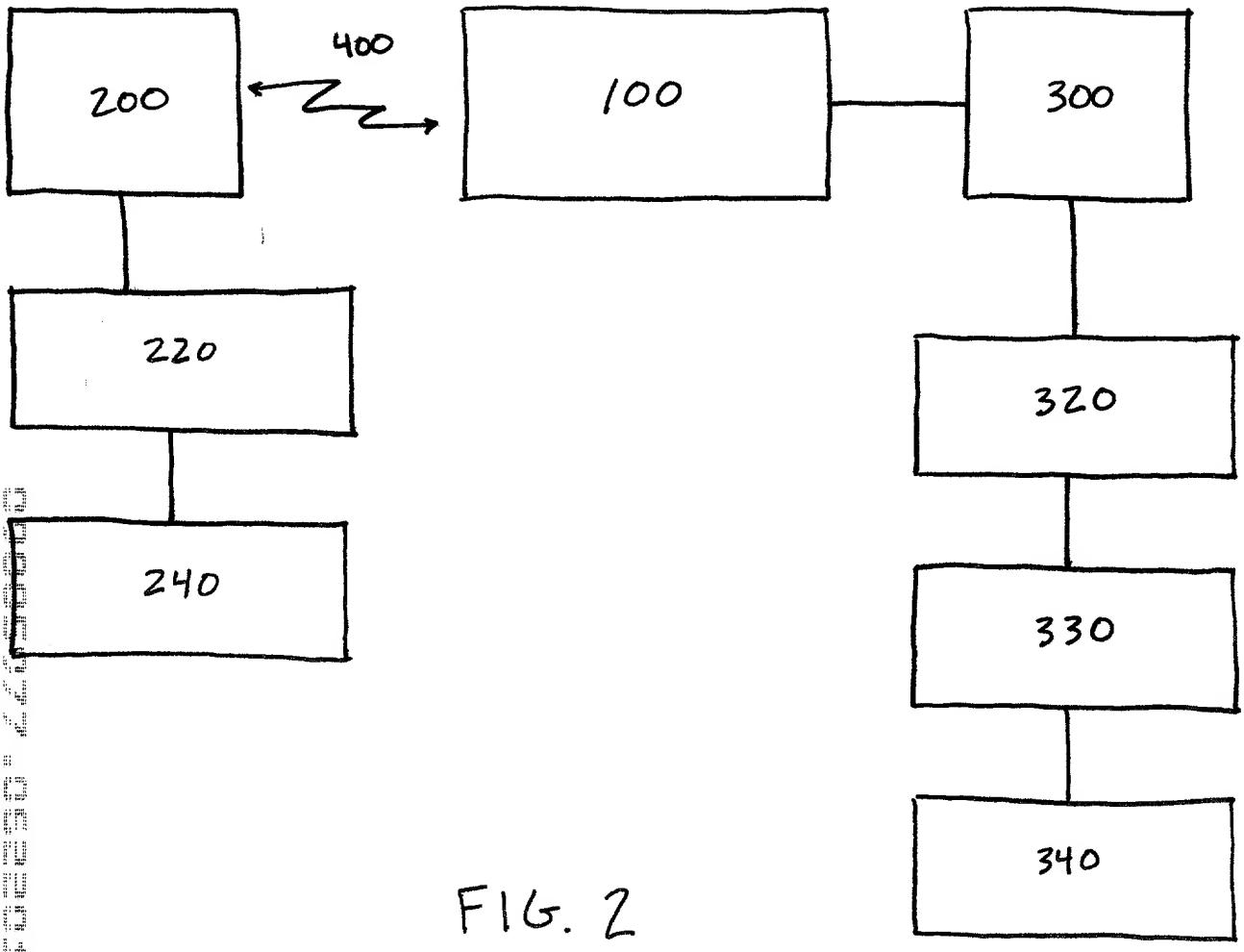

FIG. 2

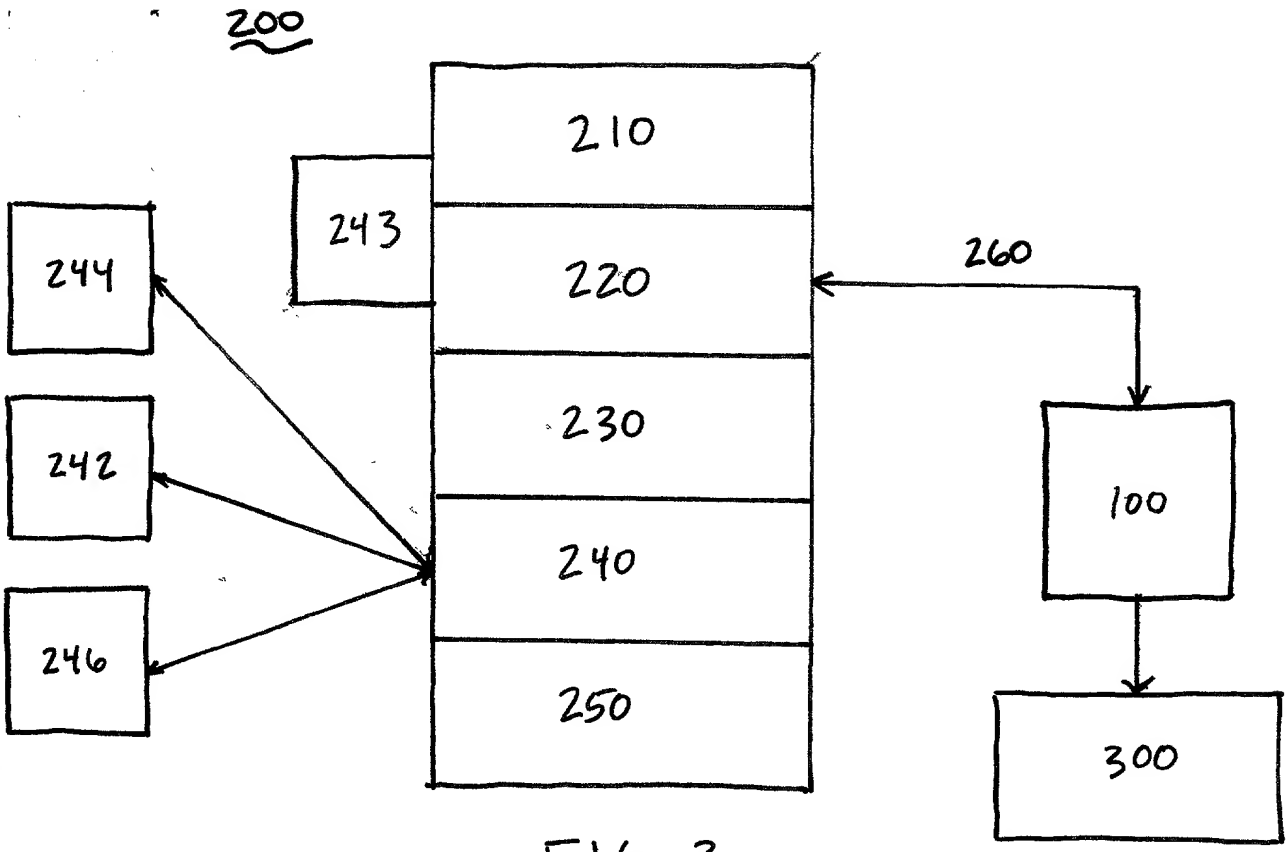
200
210
243
220
230
240
250
244
242
246
260
100
300

FIG. 3a

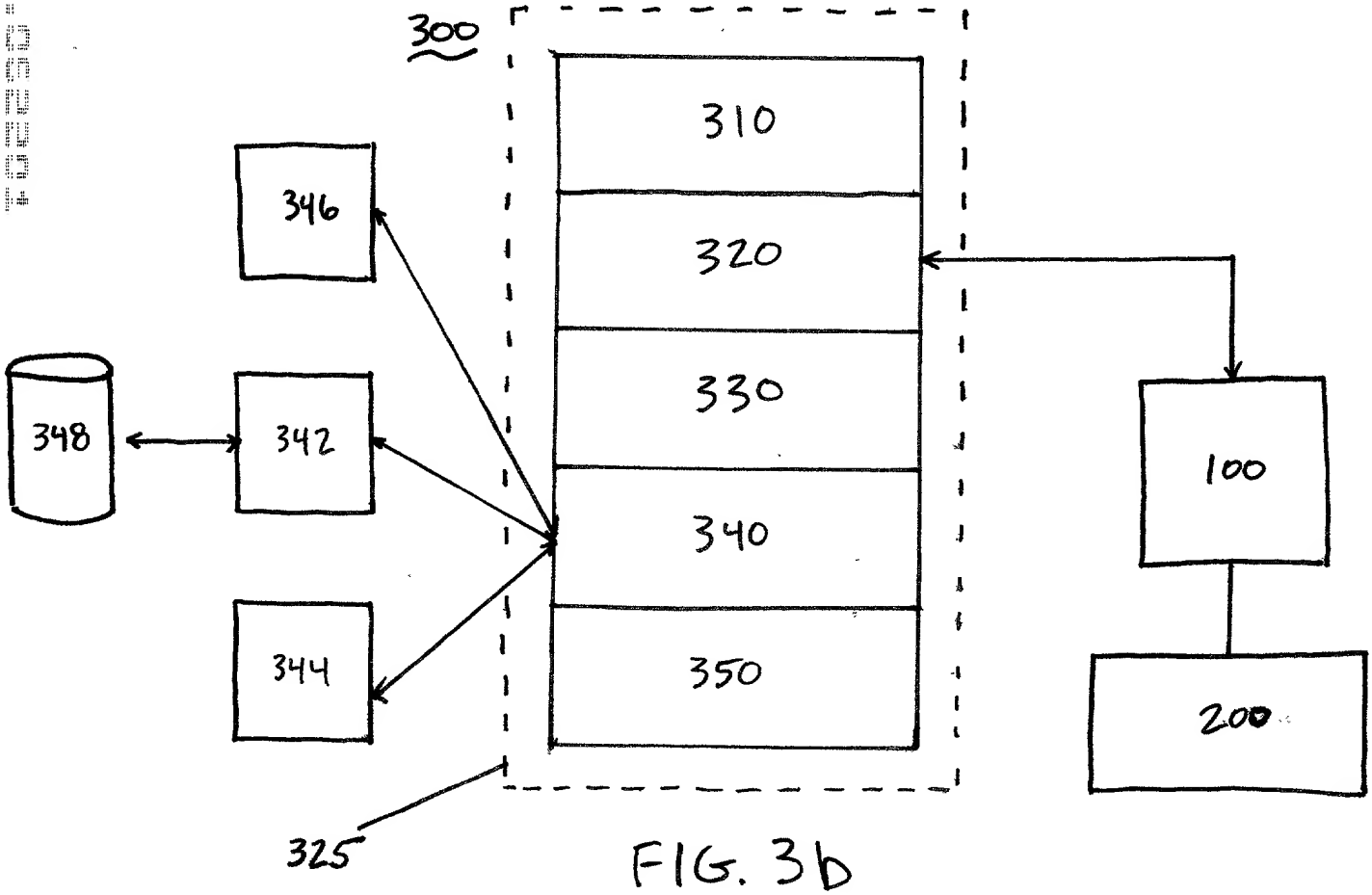
300
310
320
330
340
350
346
342
344
348
325
100
200

FIG. 3b

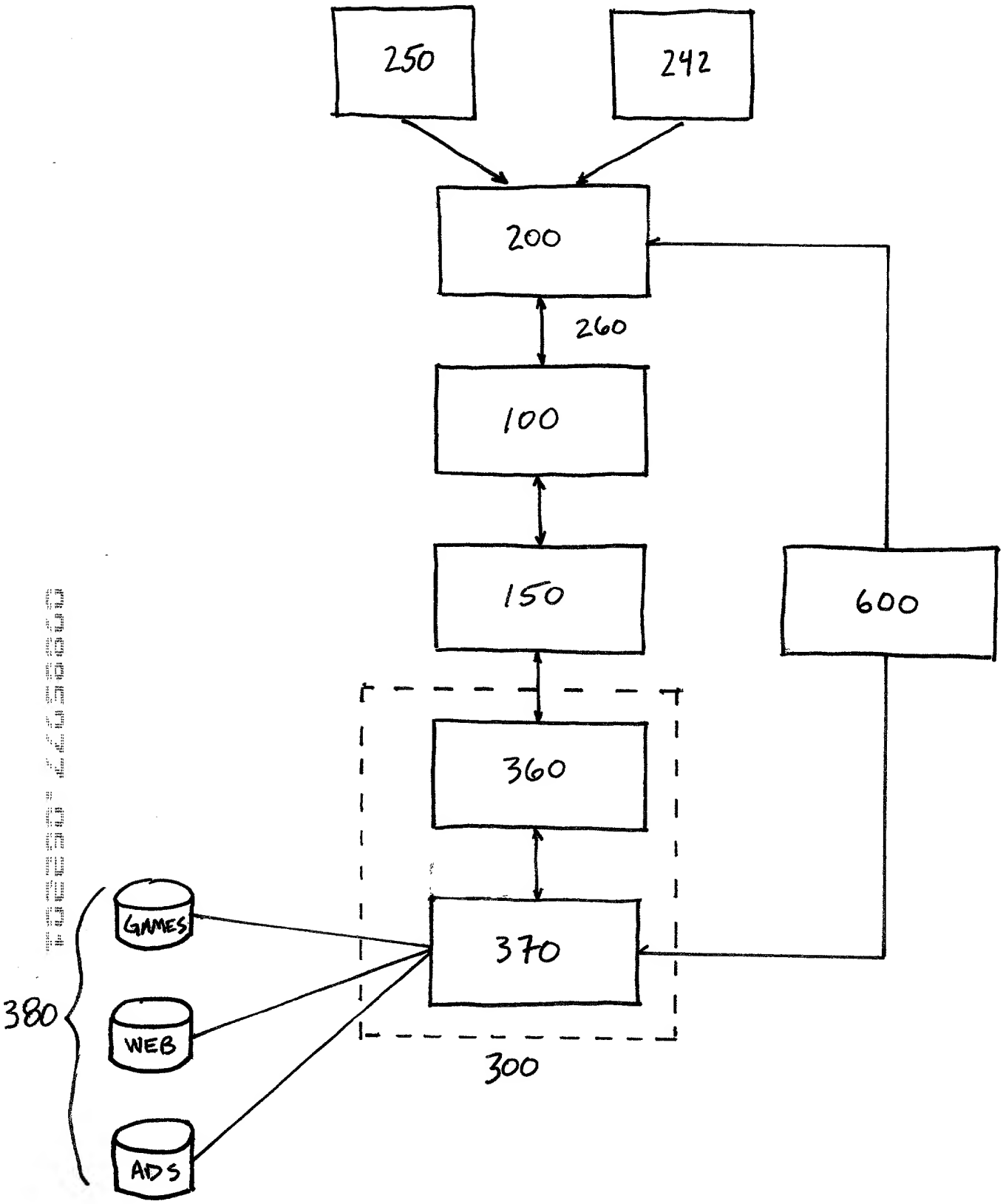

FIG. 4

Attorney Docket No. 25566.0

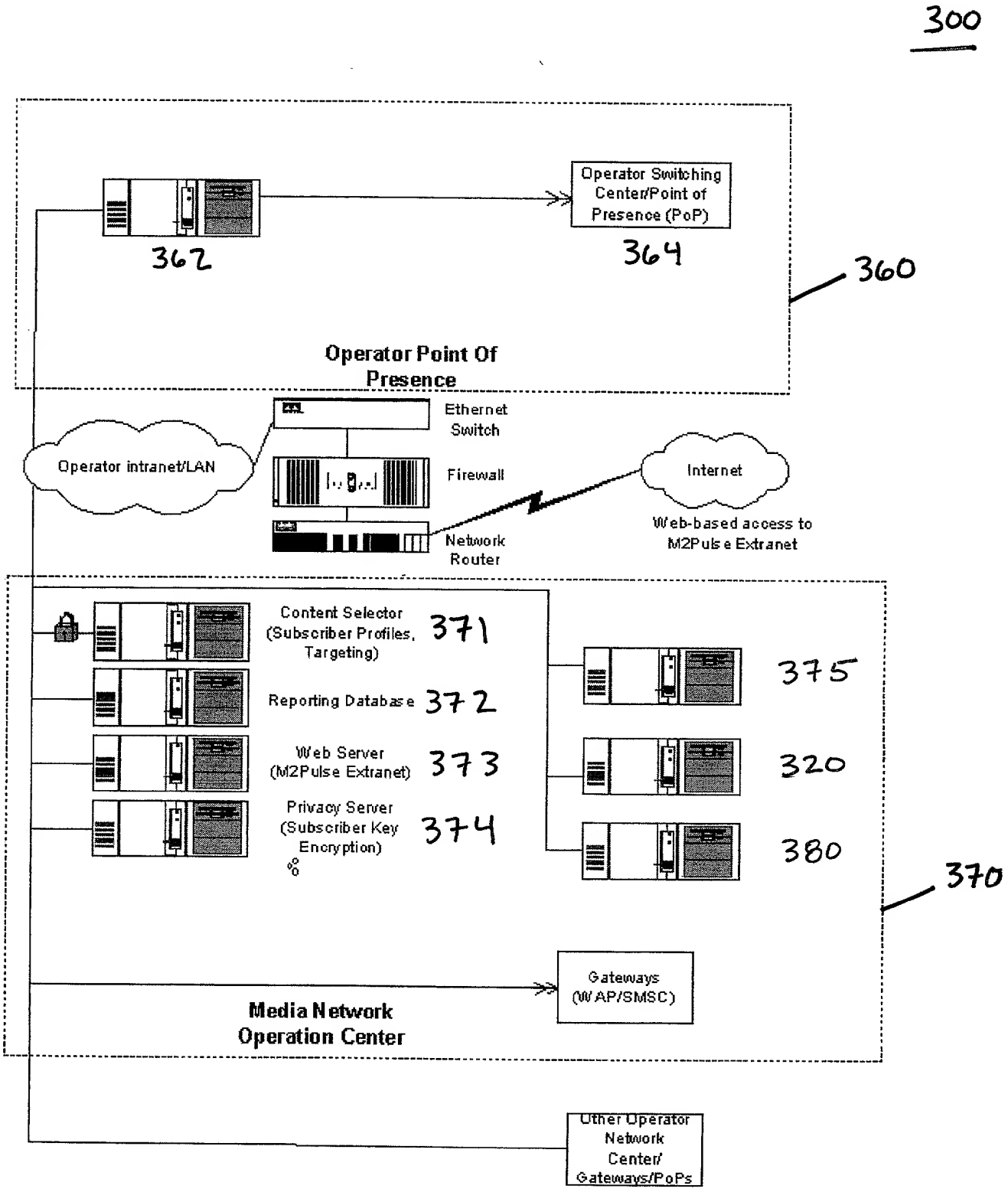

FIG. 5

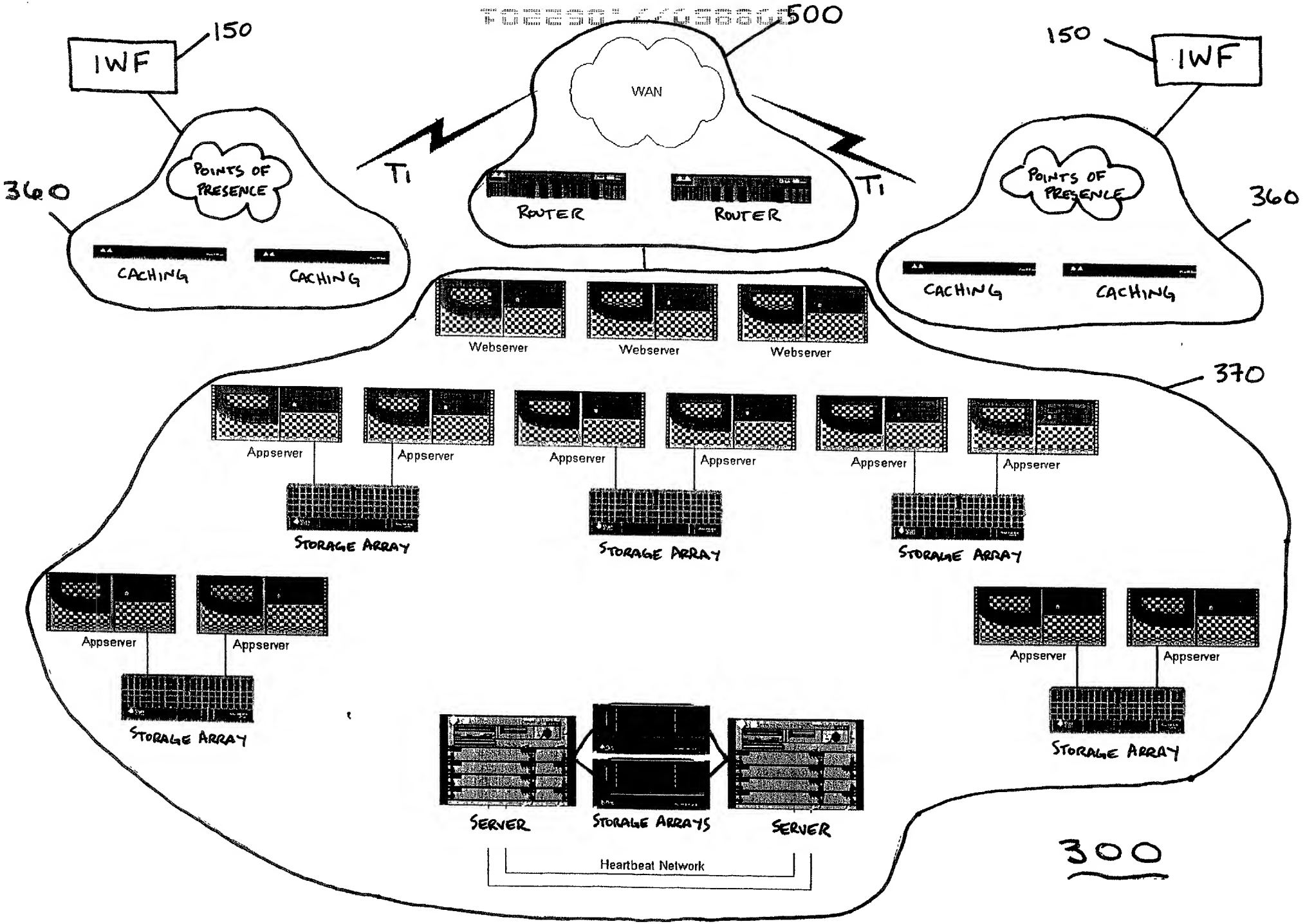
500
150
IWF
WAN
150
IWF
T1
T1
360
POINTS OF PRESENCE
ROUTER
ROUTER
POINTS OF PRESENCE
360
CACHING
CACHING
CACHING
CACHING
Webserver
Webserver
Webserver
370
Appserver
Appserver
Appserver
Appserver
Appserver
Appserver
STORAGE ARRAY
STORAGE ARRAY
STORAGE ARRAY
Appserver
Appserver
Appserver
Appserver
STORAGE ARRAY
STORAGE ARRAY
SERVER
STORAGE ARRAYS
SERVER
Heartbeat Network
300

FIG. 6

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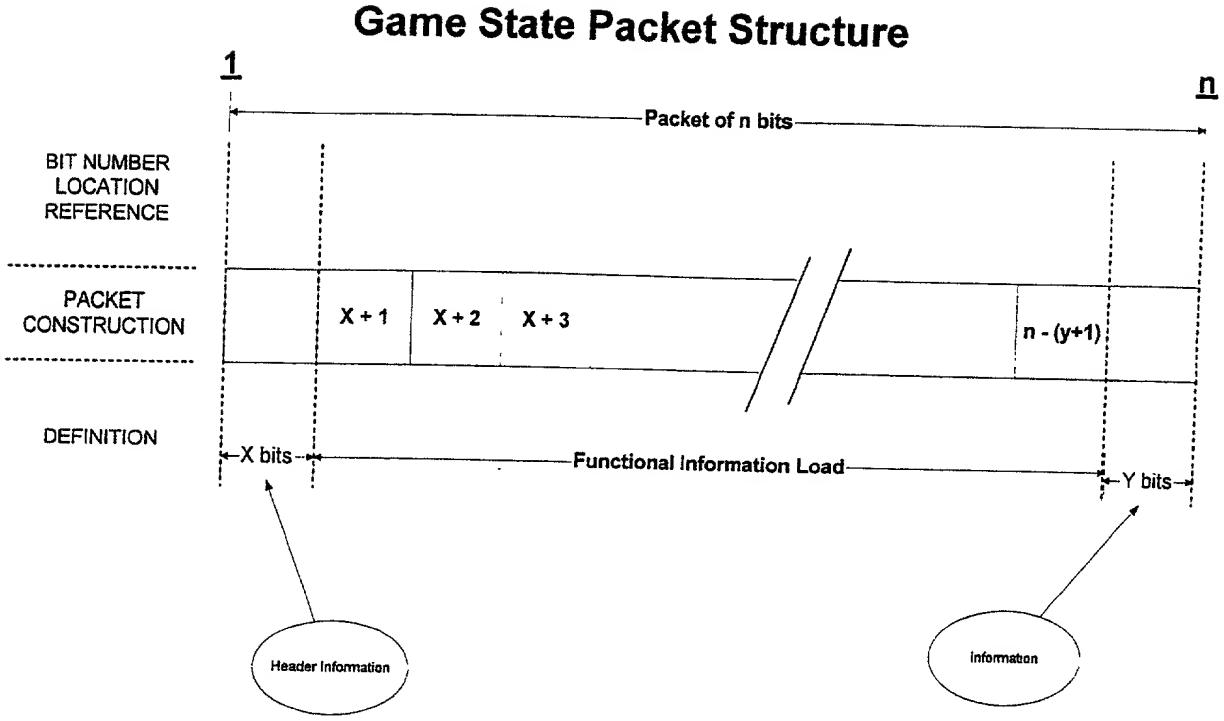

FIG. 7

Bit Number Location	DoF Variable Library	Mapped Game Object Library
X – 1		
X – 2	DoF class A	A = object+A DoF1
X – 3		
"		
"	DoF class B	
"		
"		
"	DoF class C	
"		
"		
"	DoF class D	
"		
"		
"		
"		
"		
"		
N – (Y + 1)	DoF class Z	Z = object N Dof N

FIG. 8

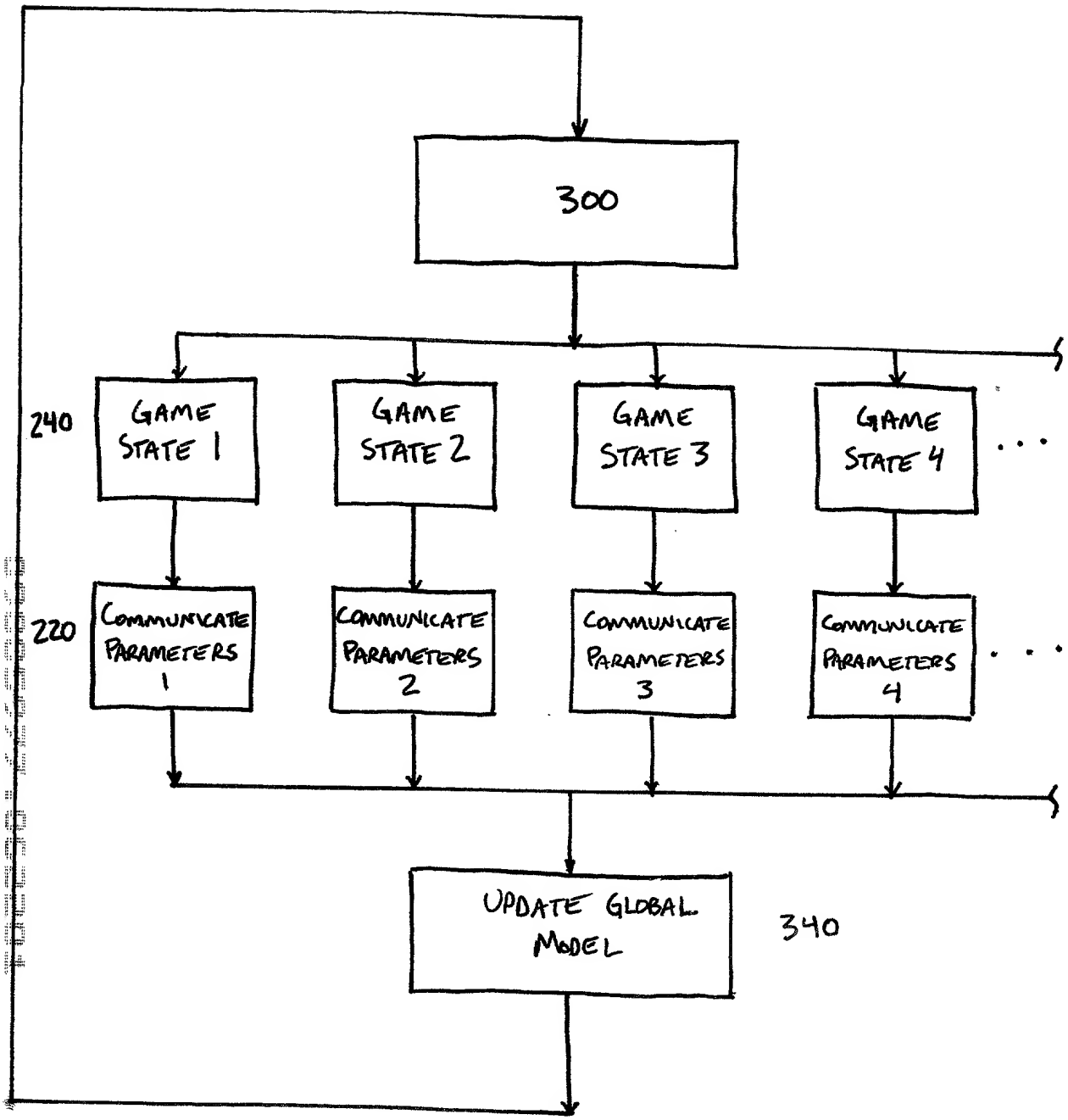
300
240
GAME STATE 1
GAME STATE 2
GAME STATE 3
GAME STATE 4
220
COMMUNICATE PARAMETERS 1
COMMUNICATE PARAMETERS 2
COMMUNICATE PARAMETERS 3
COMMUNICATE PARAMETERS 4
UPDATE GLOBAL MODEL
340

FIG. 9

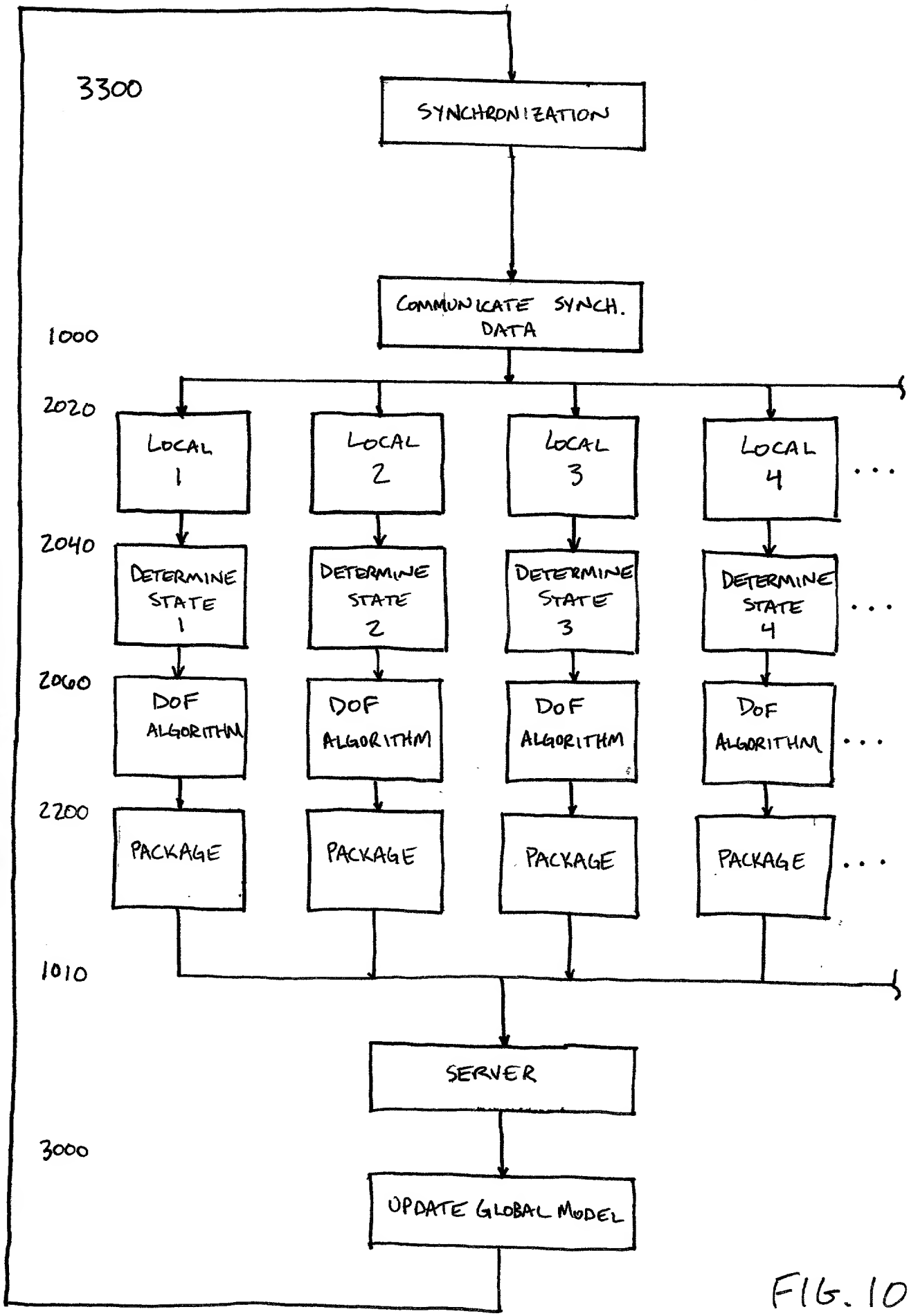
3300
SYNCHRONIZATION
COMMUNICATE SYNCH. DATA
1000
2020
LOCAL 1
LOCAL 2
LOCAL 3
LOCAL 4
2040
DETERMINE STATE 1
DETERMINE STATE 2
DETERMINE STATE 3
DETERMINE STATE 4
2060
DOF ALGORITHM
DOF ALGORITHM
DOF ALGORITHM
DOF ALGORITHM
2200
PACKAGE
PACKAGE
PACKAGE
PACKAGE
1010
SERVER
3000
UPDATE GLOBAL MODEL

FIG. 10

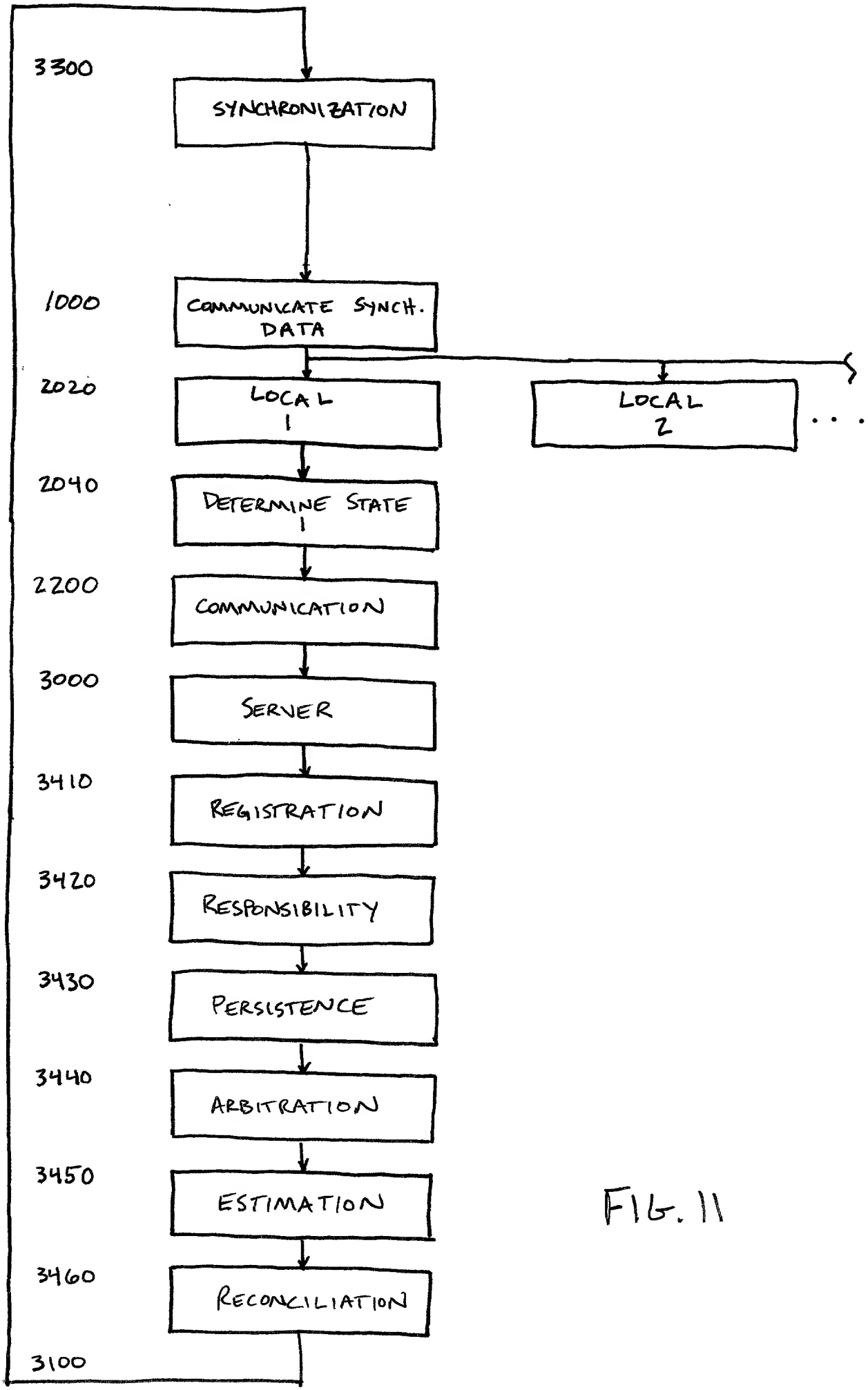
3300
SYNCHRONIZATION
1000
COMMUNICATE SYNCH. DATA
2020
LOCAL 1
LOCAL 2
. . .
2040
DETERMINE STATE 1
2200
COMMUNICATION
3000
SERVER
3410
REGISTRATION
3420
RESPONSIBILITY
3430
PERSISTENCE
3440
ARBITRATION
3450
ESTIMATION
3460
RECONCILIATION
3100

FIG. 11

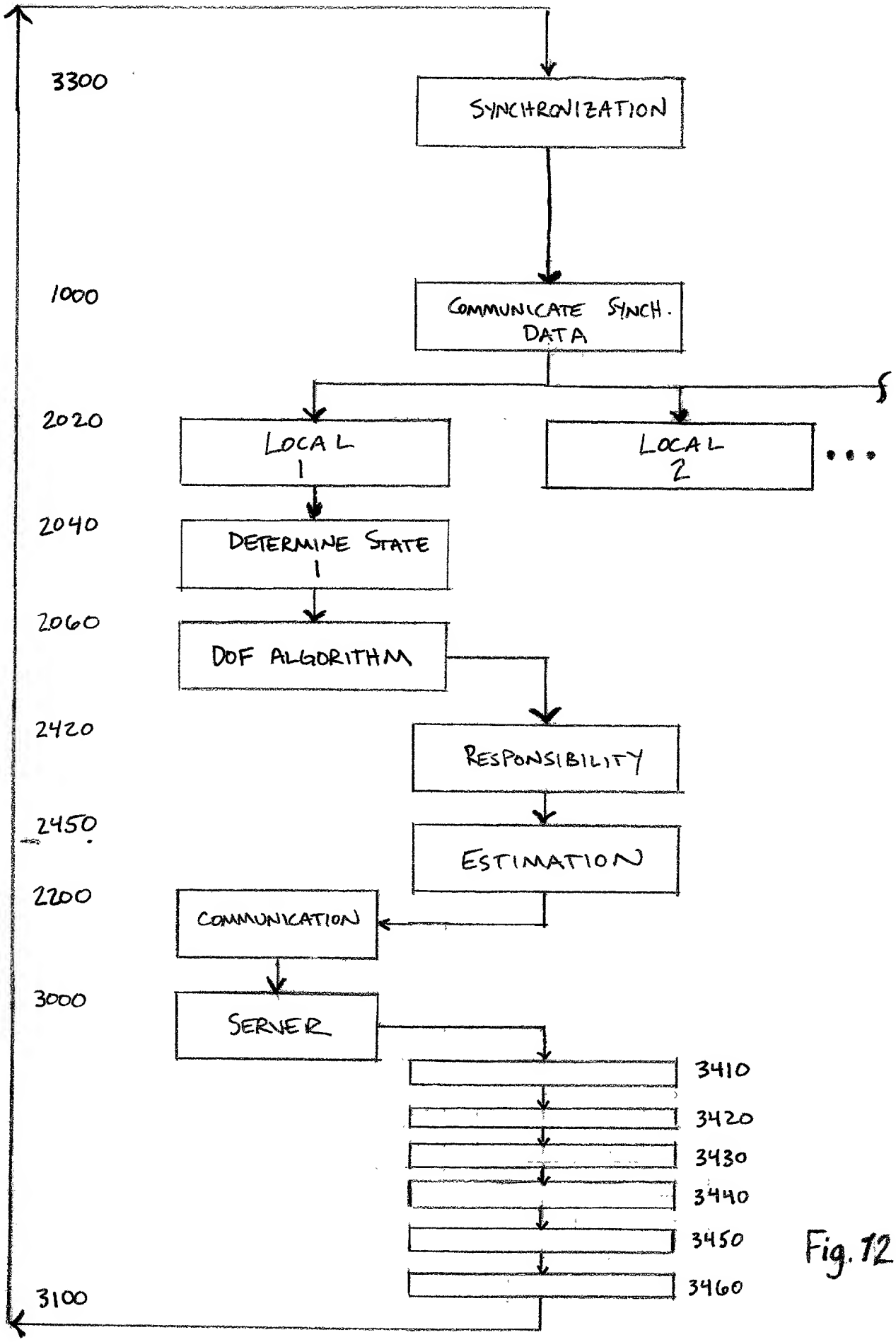
3300
SYNCHRONIZATION
1000
COMMUNICATE SYNCH. DATA
2020
LOCAL 1
LOCAL 2
...
2040
DETERMINE STATE 1
2060
DOF ALGORITHM
2420
RESPONSIBILITY
2450
ESTIMATION
2200
COMMUNICATION
3000
SERVER
3410
3420
3430
3440
3450
3460
3100

Fig. 12

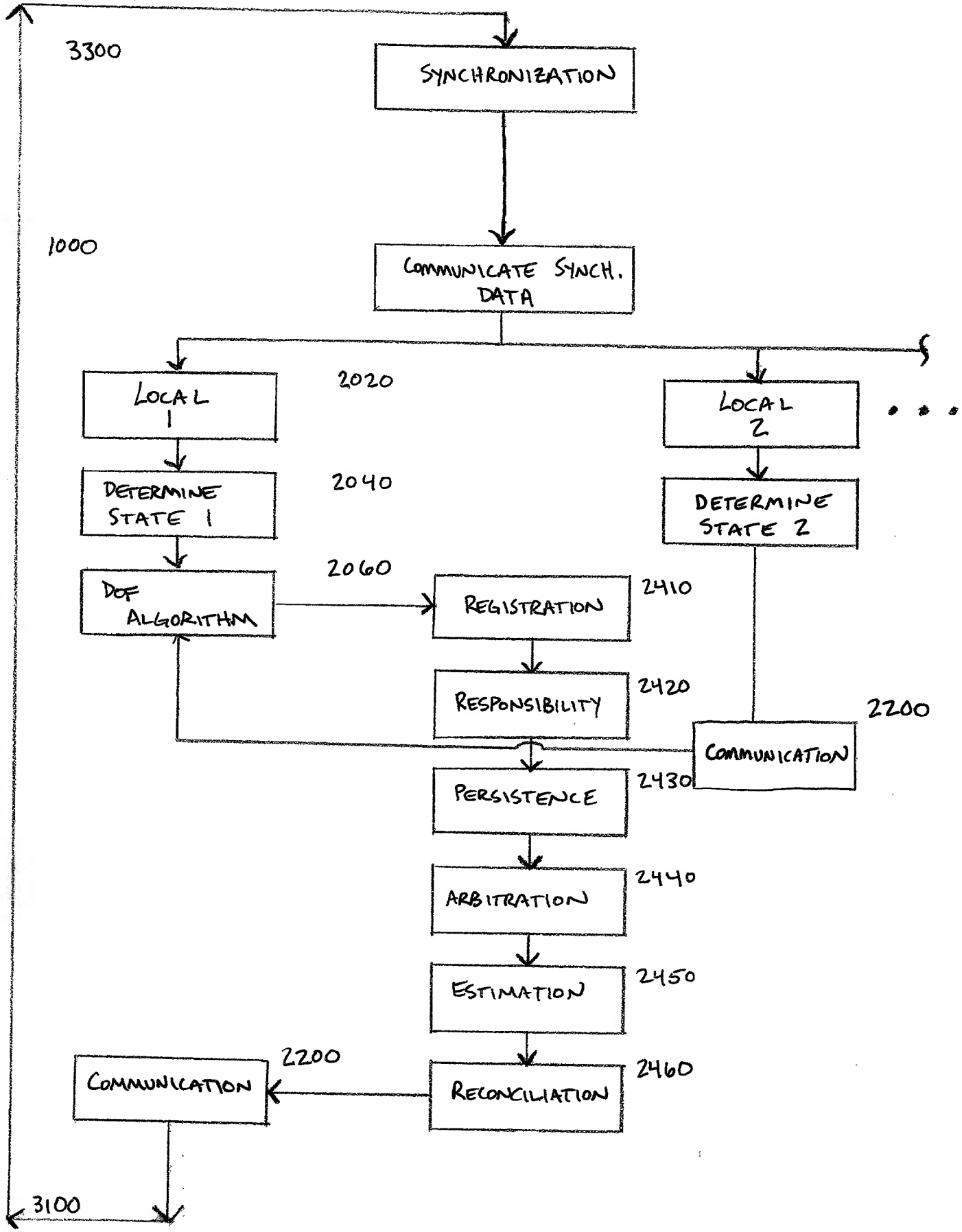
3300
SYNCHRONIZATION
1000
COMMUNICATE SYNCH. DATA
LOCAL 1
2020
LOCAL 2
DETERMINE STATE 1
2040
DETERMINE STATE 2
DOF ALGORITHM
2060
REGISTRATION
2410
RESPONSIBILITY
2420
2200
COMMUNICATION
PERSISTENCE
2430
ARBITRATION
2440
ESTIMATION
2450
2200
COMMUNICATION
RECONCILIATION
2460
3100

Fig. 13

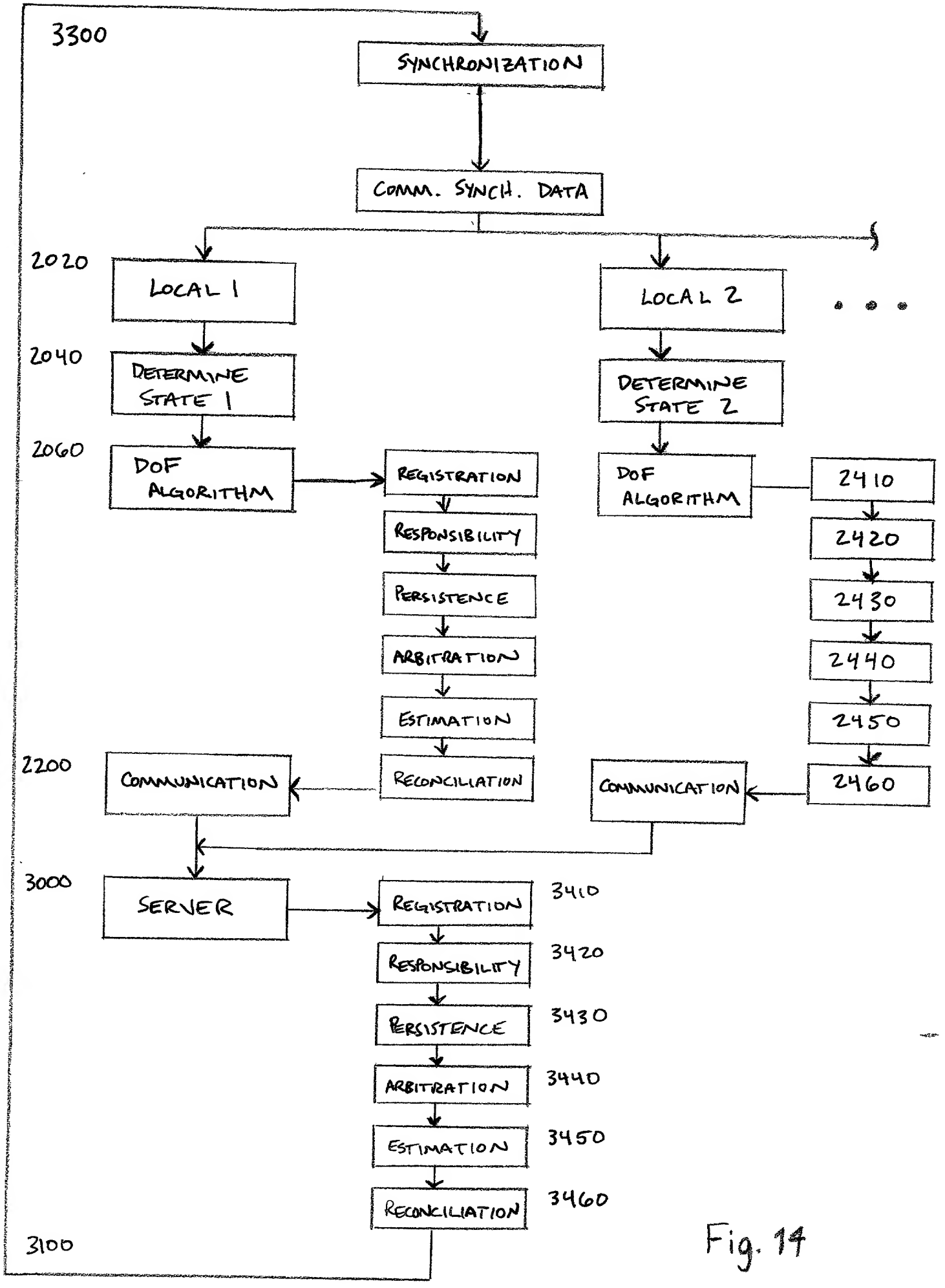
3300
SYNCHRONIZATION
COMM. SYNCH. DATA
2020
LOCAL 1
LOCAL 2
2040
DETERMINE STATE 1
DETERMINE STATE 2
2060
DOF ALGORITHM
REGISTRATION
RESPONSIBILITY
PERSISTENCE
ARBITRATION
ESTIMATION
RECONCILIATION
DOF ALGORITHM
2410
2420
2430
2440
2450
2460
2200
COMMUNICATION
COMMUNICATION
3000
SERVER
REGISTRATION
3410
RESPONSIBILITY
3420
PERSISTENCE
3430
ARBITRATION
3440
ESTIMATION
3450
RECONCILIATION
3460
3100

Fig. 14

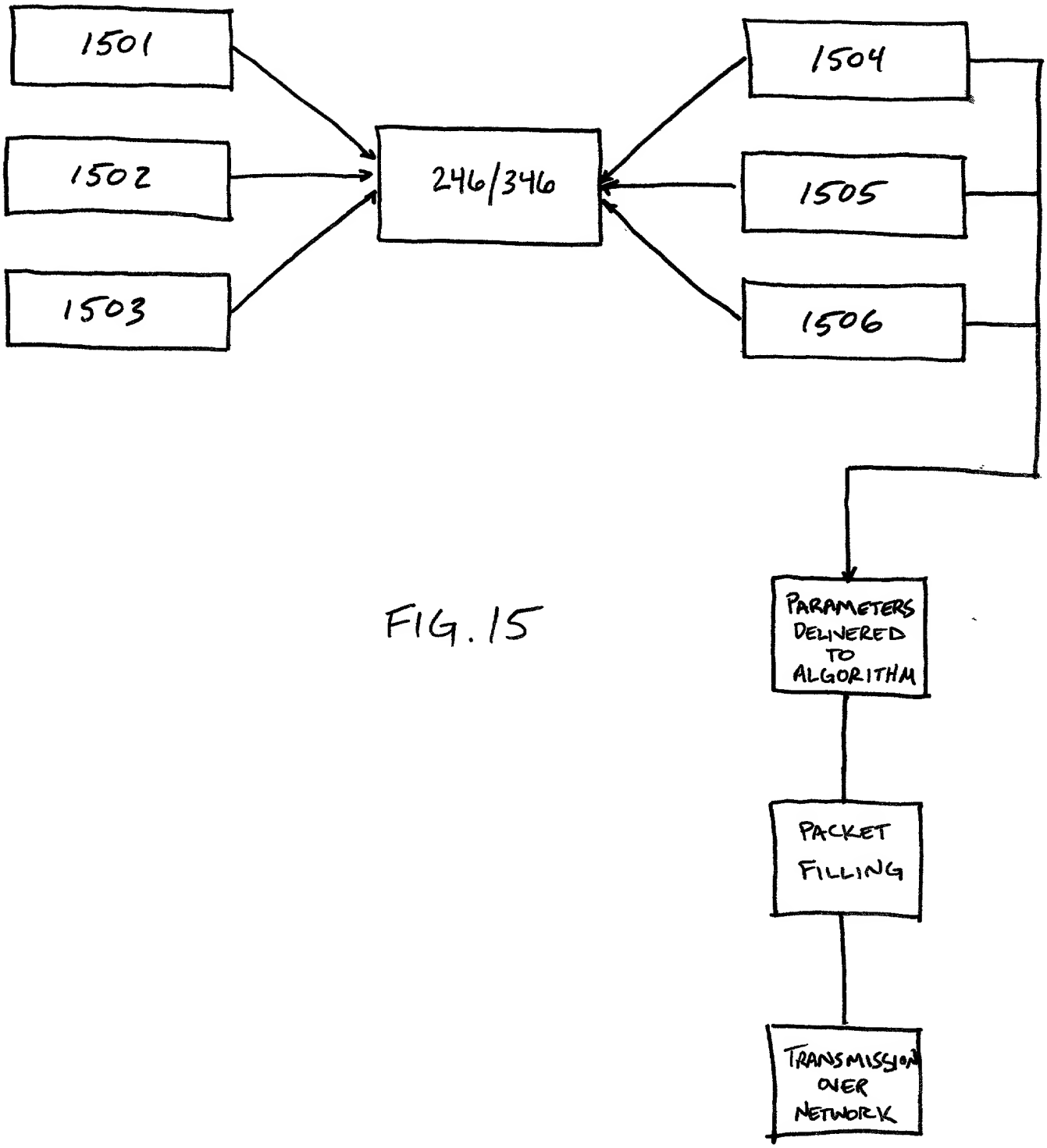
1501
1502
1503
246/346
1504
1505
1506
PARAMETERS DELIVERED TO ALGORITHM
PACKET FILLING
TRANSMISSION OVER NETWORK

FIG. 15